

Serial No. 09/899,941

Reply filed on December 1, 2003

Reply to Office Action of September 11, 2003

Docket No. RPL-021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A color cathode-ray tube comprising ~~a panel having a~~
fluorescent plane formed on the inner surface thereof, and a shadow mask arranged at the inner
side of the panel, having a predetermined distance therefrom,

wherein said shadow mask has an effective area in which electron beam passage
holes are formed and a non-effective area surrounding said effective area, and at least one half
etching line is formed at the non-effective area of the shadow mask[;], and

wherein at least one half etching line comprises a portion that extends a distance
~~at least one~~ of a length and a width of the effective area and the at least one half etching line is
located in a same plane or a plane parallel to the effective area.

2. (Previously Presented) The color cathode-ray tube as claimed in claim 1,
wherein the half etching line is formed on the surface of the shadow mask, opposite to the
fluorescent plane and the at least one half etching line increases a supporting strength of the
shadow mask.

3. (Currently Amended) The color cathode-ray tube as claimed in claim 1, wherein the half etching line is formed to extend toward ~~at least one of~~ the shorter side, longer side and corner of the shadow mask and the at least one half etching line increases a supporting strength of the shadow mask.

4. (Currently Amended) The color cathode-ray tube as claimed in claim 1, wherein the non-effective area is bent to have a skirt attached to a frame, and the half etching line is placed between the bent portion and the portion attached to the frame at the skirt and the at least ~~[[on]]~~ one half etching line increases a supporting strength of the shadow mask.

5. (Currently Amended) The color cathode-ray tube as claimed in claim 1, wherein the half etching line is formed ~~on each of both surfaces at the non-effective area of the shadow mask and the at least one half etching line increases a supporting strength of the shadow mask~~ with a radius of curvature of a corner of the half etching line is about 0.8-3mm.

6. (Currently Amended) The color cathode-ray tube as claimed in claim ~~[[5]]~~ 1, wherein the half etching lines are ~~alternately~~ formed on ~~both surfaces~~ only one surface thereof and the at least one half etching line increases a supporting strength of the shadow mask.

7. (Previously Presented) The color cathode-ray tube as claimed in claim 1, wherein the half etching line has a rectangular shape surrounding the effective area and the at least one half etching line increases a supporting strength of the shadow mask.

8. (Previously Presented) The color cathode-ray tube as claimed in claim 1, wherein the panel is a flat type whose outer surface is substantially flat and whose inner surface has a predetermined curvature and the at least one half etching line increases a supporting strength of the shadow mask.

9. (Previously Presented) The color cathode-ray tube as claimed in claim 1, wherein the distance between the effective area and the half etching lines corresponds to 100-200 μ m and the at least one half etching line increases a supporting strength of the shadow mask.

10. (Previously Presented) The color cathode-ray tube as claimed in claim 1, wherein the width of the half etching line is 50-100 μ m and the at least one half etching line increases a supporting strength of the shadow mask.

11. (Currently Amended) The color cathode-ray tube as claimed in claim 1, wherein there are at least two half etch lines, ~~the distance between the two half etching lines ranges in distance from the thickness of the shadow mask to twice the thickness thereof and the~~ at least ~~[[one]]two~~ half etching line ~~increases a supporting strength~~ lines align with at least two corners of the shadow mask.

12. (Currently Amended) The color cathode-ray tube as claimed in claim ~~[[11]]1~~, wherein ~~the distance between the half etching lines is 100-150 μ m and the~~ at least one half etching line is rectangular shaped in depth and increases a supporting strength of the shadow mask.

13. (Currently Amended) The color cathode-ray tube as claimed in claim 1, wherein the ~~etched depth of the~~ half etching line surrounds a corner of ~~corresponds to 10-35% of the thickness of the shadow mask and the~~ at least one half etching line increases a supporting strength of the shadow mask.

14. (Currently Amended) The color cathode-ray tube as claimed in claim ~~[[13]]1~~, wherein the ~~etched depth of the~~ half etching line ~~corresponds to 15-45 μ m and the~~ at least

one half etching line ~~increases a supporting strength of the shadow mask~~ extends perpendicular to an edge of the effective area closest to the at least one half etching line.

15. (Previously Presented) The color cathode-ray tube as claimed in claim 3, wherein the radius of curvature of the corner of the half etching line is 0.8-3 mm and the at least one half etching line increases a supporting strength of the shadow mask.

16. (Previously Presented) The color cathode-ray tube as claimed in claim 1, wherein the length (ℓ) of the half etching line surrounding the corner of the shadow mask is above 60% of half the longer side ($\ell 1$) or half the shorter side ($\ell 2$) of the effective area of the shadow mask and the at least one half etching line increases a supporting strength of the shadow mask.

17. (Currently Amended) A shadow mask having a flat shape for a display panel comprising:

an effective area having beam passage holes; and

a non-effective area adjacent and parallel to said effective area, wherein at least one groove formed on the non-effective area which is parallel to the effective area extends a

prescribed distance parallel to at least a one of a length and a width of the effective area and wherein said at least one groove is formed on only one flat side of the shadow mask.

18. (Currently Amended) The shadow mask as claimed in claim 17, wherein a cathode ray tube enclads the shadow mask and wherein said at least one groove extends in both a length and a width of the effective area.

19. (Currently Amended) A color cathode-ray tube comprising ~~a panel having a fluorescent plane formed on the inner surface thereof, and a shadow mask arranged at the inner side of the panel, having a predetermined distance therefrom,~~

~~wherein said shadow mask has~~ with an effective area in which electron beam passage holes are formed and a non-effective area surrounding said effective area, and at least one half etching line is formed at the non-effective area of the shadow mask~~[[; and]]~~, wherein said at least one half etching line comprises a ~~portion~~ half etching line that extends a distance perpendicular to and from an effective area and non-effective are intersection line at least one of a length and a width of the effective area and the at least one half etching line is located in a same plane or a plane parallel to the effective area and wherein the etched depth of the half etching line corresponds to 15-45 m and the at least one half etching line increases a supporting strength of the shadow mask.

Serial No. 09/899,941

Reply filed on December 1, 2003

Docket No. RPL-021

Reply to Office Action of September 11, 2003

20. (New) The color cathode-ray tube of claim 19, wherein said at least one half etching line comprises at least two half etching lines, wherein a first half etching line extends from a length intersection line between said effective area and said non-effective area, and wherein a second half etching line extends from a width intersection line between said effective area and said non-effective area.